AMENDMENTS TO THE CLAIMS:

This listing will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS:

1. (currently amended) A method of using ~~Use of~~ cobalt as a catalyst for heterocoupling between an aryl (pseudo)halide and a derivative that carries a double bond and a leaving group in vinyl-position, allyl-position and even homoallyl-position of said double bond comprising bringing the catalyst ~~by being brought~~ into contact with the aryl (pseudo)halide and the derivative in a solvent with a metal or an alloy that is at least as reducing as zinc, wherein the derivative carries a double bond and a leaving group in vinyl-position, allyl-position and even homoallyl-position of the double bond.

2. (currently amended) The method of ~~Use according to~~ claim 1, ~~characterized by the fact that~~ wherein the cobalt is present in oxidation state 2.

3. (currently amended) The method of claim 1 ~~Use according to claims 1 and 2~~, wherein the cobalt is present in a coordinated form.

4. (currently amended) The method of ~~Use according to~~ claim 3, wherein the coordination of the cobalt is carried out by a solvent compound or solvating compound that has a high donor index.

5. (currently amended) The method of ~~Use according to~~ claim 4, wherein ~~the~~ an atom that is responsible for a good donor index is selected from among the atoms of the nitrogen column.

6. (currently amended) The method of claim 3 ~~Use according to claims 3 to 5~~, wherein the coordination of the cobalt is carried out by a specific coordinating agent.

7. (currently amended) The method of ~~Use according to~~ claim 6, wherein said coordinating agent has functions that are selected from ~~among the~~ the group consisting of pyridine, nitrile, phosphine, stibine and imine functions.

8. (currently amended) The method of claim 1 ~~Use according to claims 1 to 7~~, wherein the metal is selected from ~~among~~ the group consisting of zinc and metals and alloys that are more electro-reducing than zinc.

9. (currently amended) The method of ~~Use according to~~ claim 8, wherein the metal is selected from ~~among~~ the group consisting of manganese and metals that are at least as reducing as manganese, provided that when the metal is more electro-reducing than the manganese, the medium contains manganous ions.

10. (currently amended) The method of claim 8 ~~Use according to claims 8 and 9~~, wherein said metal is selected from ~~among the~~ metals that are more electro-reducing than the manganese and wherein the medium contains manganous ions~~, advantageously at a concentration of between 2×10^{-3} and 10^{-1} M~~.

11. (currently amended) The method of claim 1 ~~Use according to claims 1 to 10~~, wherein said derivative that carries a double bond and a leaving group is a vinyl ester.

12. (currently amended) The method of ~~Use according to~~ claim 11, wherein the ratio of (coordinating agent(s)/cobalt) between coordinating agent(s), expressed in mol for the monodentates and in equivalent terms for the polydentates and the cobalt ions (expressed in mol) is at least equal to 0.5~~; advantageously 1, preferably 2 and more preferably 4~~.

13. (currently amended) The method of claim 1 ~~Use according to claims 1 to 12~~, wherein said derivative that carries a double bond and a leaving group is an allyl ester or an allyl ether.

14. (currently amended) The method of ~~Use according to~~ claim 13, wherein the ratio of [cobalt]/[coordinating agent that is at least bidentate and of which at

least one tooth is pyridine expressed in pyridine equivalent] is greater than ½, ~~advantageously 1~~.

15. (currently amended) The method of ~~Use according to~~ claim 14, wherein when the complexing agents are strong complexing agents, the cobalt/pyridine equivalent ratio is greater than ½, ~~advantageously 1~~.

16. (currently amended) A composition ~~Composition~~ that comprises at least one cobalt salt, a solvent that is optionally conductive or made conductive, a cobalt coordinating agent and a derivative that carries a double bond and a leaving group.

17. (currently amended) The composition of ~~Composition according to~~ claim 16, wherein ~~it also~~ the composition further comprises a ferrous salt, ~~advantageously in dissolved form~~.

18. (currently amended) The composition of claim 16 ~~Composition according to claims 16 and 17~~, wherein ~~it~~ the composition comprises a ferrous salt, the Co/Fe ratio from 1/10 to 10/1, ~~advantageously from 1/5 to 5/1~~.

19. (currently amended) The composition of claim 16 ~~Composition according to claims 16 to 18~~, wherein the cobalt content is between 2×10^{-3} et 10^{-1} M.

20. (currently amended) The composition of claim 16 ~~Composition according to claims 16 to 19~~, wherein ~~it~~ the composition comprises a solvent that is selected from the group consisting of ~~among the components below, alone or in a mixture:~~

- Purely oxidized solvents, in particular the ethers, preferably polyethers such as dimethoxy-1,2-ethane or cyclic ethers such as THF or dioxane;
- Amides, including ureas;
- Sulfones or sulfoxides;
- Nitrogen-containing derivatives, in particular nitrogen-containing heterocyclic compounds, in particular pyridine and compounds with nitrile functions;
- Complexing agents, and mixtures thereof.

21. (currently amended) The composition of claim 16 ~~Composition according to claims 16 to 20~~, wherein the molar ratio of dissolved radical between the cobalt and a derivative that carries a double bond and a leaving group goes from 10^{-2} to 0.5.

22. (currently amended) A process ~~Process~~ of coupling an aryl (pseudo)halide with a derivative that carries a double bond and a leaving group, ~~wherein it consists in~~ comprising subjecting a composition according to ~~one of claims 16~~

~~to 19~~ claim 16, also comprising an aryl (pseudo)halide, to a reaction with a metal that is at least as electro-reducing as zinc.

23. (currently amended) The process of ~~Process according to~~ claim 22, wherein the aryl (pseudo)halide is a compound of formula (I):

Ar-X (Formula I)

where X represents a halogen atom that is heavier than the fluorine, and

where Ar represents a homocyclic or heterocyclic aromatic radical.

24. (currently amended) The process of claim 22 ~~Process according to claims 22 and 23~~, wherein the aryl (pseudo)halide is a compound of formula (I):

Ar-X (Formula I)

where X represents a bromine or chlorine atom, and

where Ar represents an aromatic radical whose core that carries X is stripped of electrons.

25. (currently amended) The process of claim 22 ~~Process according to claims 22 to 24~~, wherein the aryl (pseudo)halide is a compound of formula (I):

Ar-X (Formula I)

where X represents a bromine or chlorine atom, and

where Ar represents an aromatic radical whose core that carries X is stripped of electrons and is selected from among the aromatic compounds of which

said core carries electroattractor function(s) and/or group(s) and whose substituents are such that the sum of their Hammett constants σ_p (sigma p) is greater than zero.

26. (currently amended) The process of claim 22 ~~Process according to claims 22 to 25~~, wherein the aryl (pseudo)halide is a compound of formula (I):

Ar-X (Formula I)

where X represents a chlorine atom, and

where Ar represents an aromatic radical whose core that carries X is stripped of electrons and is selected from among the aromatic compounds of which said core carries (an) electroattractor function(s) and/or group(s) and whose substituents are such that the sum of their Hammett constants σ_p (sigma p) is at least equal to 0.4, preferably 0.5 or of which said core is a heterocyclic compound with 6 chain links that advantageously have an atom from the nitrogen column, and especially nitrogen and phosphorus.

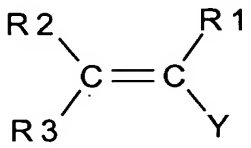
27. (currently amended) The process of ~~Process according to~~ claim 23, wherein the aryl (pseudo)halide is a compound of formula (I):

Ar-X (Formula I)

where X represents a bromine or iodine atom, and

where Ar represents an aromatic radical whose core that carries X is not stripped of electrons.

28. (currently amended) The process of claim 22 ~~Process according to claims 22 to 27~~, wherein said derivative that carries a double bond is a vinyl ester of formula (II)



(Formule II)

[Formula II]

where R_1, R_2 et R_3, which may or may not be different, are selected from among hydrogen, the functions that are more difficult to reduce than the function Y and from among the hydrocarbon radicals, in particular alkyls and aryls;

where Y corresponds to a leaving group that can exist in the form Y^-, advantageously selected from among the halogens and the carboxylates and wherein said metal or alloy is more electro-reducing than the zinc.

29. (currently amended) The process of ~~Process according to~~ claim 28, wherein the cobalt is complexed by a bidentate coordinating agent, advantageously of which one of the teeth is a pyridine, preferably of which the two teeth are pyridines, more preferably bipyridine.

30. (currently amended) The process of claim 28 ~~Process according to claims 28 and 29~~, wherein said radical Ar is an acyloxyphenyl.

31. (currently amended) The process of claim 28 ~~Process according to claims 28 and 30~~, wherein said vinyl acetate is selected from among the vinyl alcanoates per se (where R_1, R_2, and R_3 are H) and the isopropenyl alkanoates (one of R_1, R_2, and R_3 is methyl and the others are hydrogens).

32. (new) The method of claim 10, wherein the medium contains manganous ions at a concentration of between 2×10^{-3} and 10^{-1} M.

33. (new) The method of claim 12, wherein the ratio of (coordinating agent(s)/cobalt) between coordinating agent(s), expressed in mol for the monodentates and in equivalent terms for the polydentates and the cobalt ions (expressed in mol) is 1.

34. (new) The method of claim 12, wherein the ratio of (coordinating agent(s)/cobalt) between coordinating agent(s), expressed in mol for the monodentates and in equivalent terms for the polydentates and the cobalt ions (expressed in mol) is 2.

35. (new) The method of claim 12, wherein the ratio of (coordinating agent(s)/cobalt) between coordinating agent(s), expressed in mol for the monodentates and in equivalent terms for the polydentates and the cobalt ions (expressed in mol) is 4.

36. (new) The method of claim 14, wherein the ratio of [cobalt]/[coordinating agent that is at least bidentate and of which at least one tooth is pyridine expressed in pyridine equivalent] is 1.

37. (new) The method of claim 15, wherein when the complexing agents are strong complexing agents, the cobalt/pyridine equivalent ratio is 1.

38. (new) The composition of claim 16, wherein the ferrous salt is in dissolved form.

39. (new) The composition of claim 16, wherein the Co/Fe ratio is from 1/5 to 5/1.